

**USGS-NPS Vegetation Mapping Program**  
**Wupatki National Monument**

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*Bouteloua eriopoda* Coconino Plateau Shrub Herbaceous Vegetation

MAP CLASS	Black Grama Coconino Plateau Mixed Shrubland, Black Grama Grassland
COMMON NAME	Black Grama Coconino Plateau Shrub Herbaceous Vegetation
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland with a sparse shrub layer (V.A.7)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.A.7.N)
FORMATION	Short temperate or subpolar grassland with sparse xeromorphic (evergreen and/or deciduous) shrub layer (V.A.7.N.m)
ALLIANCE	<i>Bouteloua eriopoda</i> Xeromorphic Shrub Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL Weak

USFS WETLAND SYSTEM Upland

RANGE

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Black Grama Coconino Plateau Shrub Herbaceous Vegetation is a common association in Wupatki NM and its environs. This association was found in twenty-one of our relevés at the northern half of Wupatki NM, specifically north of Crack-in-rock Road in Antelope Wash and on White Mesa. It also was found to occur on Babbitt Ranches land on White Mesa as well as west of Highway 89.

ENVIRONMENTAL DESCRIPTION

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This association's elevation ranged from 4,757-5,807 ft (1,450-1,770 m) (average 5,167 ft/1,575 m). The substrate consisted mainly of limestone cobbles, gravel, and bedrock with black cinders and clay loam soils. A few of the relevés also were characterized by sand and sandstone. The slope varied from gentle to steep, 0-20% (average 6%).

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Shrub	Mixed shrubs including: <i>Atriplex confertifolia</i> , <i>Atriplex canescens</i> , <i>Ephedra viridis</i> , <i>Ericameria nauseosa</i> , <i>Gutierrezia sarothrae</i>
Herbaceous	<i>Bouteloua eriopoda</i>

ASSOCIATED SPECIES

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*Aristida purpurea* var. *longiseta*, *Brickellia oblongifolia*, *Ephedra cutleri*, *Ephedra torreyana*, *Fallugia paradoxa*, *Juniperus monosperma*, *Hesperostipa comata*, *Lycium andersonii*, *Muhlenbergia porteri*, *Opuntia whipplei*, *Pleuraphis jamesii*, *Sphaeralcea parvifolia*, *Sporobolus airoides*, *Sporobolus contractus*

VEGETATION DESCRIPTION

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Black Grama Coconino Plateau Shrub Herbaceous Vegetation total vegetation cover ranges from 21-46% (average 34%) with 1-24% (average 11%) in the shrub layer and 15-43% (average 24%) in the herbaceous layer. The total species diversity ranged from 4-16 species (average 10) in the 21 relevés sampled.

The shrub layer was not dominated by a single species; rather, several species of Colorado Plateau characteristic shrubs can dominate or co-dominate in the shrub canopy depending on abiotic factors and land use history. These shrubs include *Atriplex confertifolia* with 0-10% absolute cover (average 1%), *Atriplex canescens* with absolute cover 0-4% (average 1%), *Ephedra viridis* with absolute cover 0-6% (average 2%), *Ericameria nauseosa* with absolute cover 0-24% (average 4%), and *Gutierrezia sarothrae* with absolute cover 0-17% (average 3%). The herbaceous layer was dominated by *Bouteloua eriopoda* with 8-42% absolute cover (average 18%).

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CONSERVATION RANK G?

DATABASE CODE CEG002787

**MAP CLASSES**

The association Black Grama Coconino Plateau Shrub Herbaceous Vegetation is represented by map class Black Grama Coconino Plateau Mixed Shrubland (map code 16) and Black Grama Grassland (map code 8).

The association Black Grama Coconino Plateau Shrub Herbaceous Vegetation was separated into two different map classes. The map class Black Grama / Coconino Plateau Mixed Shrubland represents areas that have a high cover of *Ericameria nauseosa*, due to its consistent photosignature. However, other shrubs that had a less consistent photosignature were lumped within the Black Grama Grassland map class.

The total area mapped of these combined map classes within Wupatki NM is 3,096 ac (1,253 ha) within 224 polygons and the total area in the park environs is 3,944 ac (1,596 ha) within 189 polygons.

**COMMENTS**

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*Bouteloua eriopoda* is the most characteristic species within this association, and must be present in order for the association definition. A steppe structure also must be present in order to be placed within this association; however, the shrub canopy can range from sparse to high densities and a variety of species can occur as well.

**Note:**

This association is found in two different map classes:

- 1) [Black Grama Grassland](#)
- 2) [Black Grama Coconino Plateau Mixed Shrubland](#)